Don't miss a beat

AED machines can save lives during cardiac arrest

By Kim Hulsey

Betty Gress would not be alive today if not for the quick actions of her office mates and the availability of an automated external defibrillator (AED).

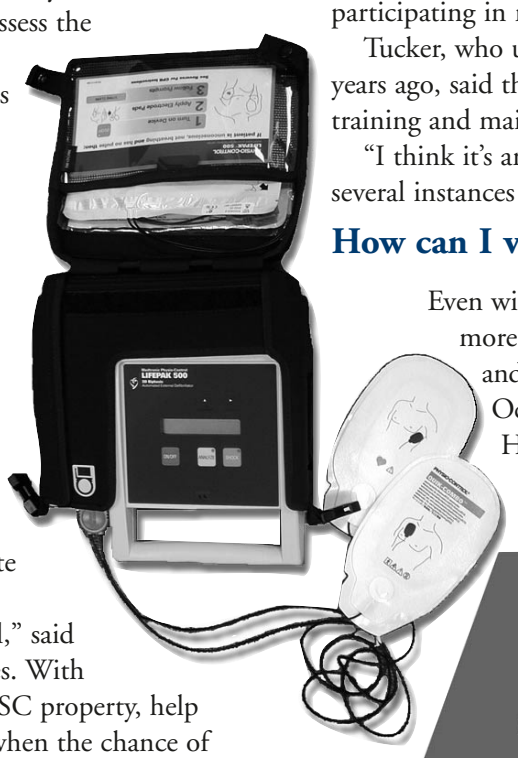
"I think about how extremely lucky I was to be in a place that had the people with the courage to do what needed to be done and the equipment to do it with," said Gress, Station Flight Manager in Johnson Space Center's Mission Integration and Schedule Management Office. "I know for a fact that I would not be here today if it were not for the AED in the building."

Gress was saved by one of 58 AEDs onsite, and she is one of four such success stories so far here at JSC. AEDs have proven to be invaluable medical tools for the Center since they were brought here about three years ago.

"You make one save and it pays for itself, really," said Russ Tucker. Tucker, a Corporal with the Special Operations Division in Physical Security Support, is a believer in the AED machines.

What is an AED?

An AED is a device used to administer an electric shock through the chest wall to the heart. This device has proven to be the only effective way to treat sudden cardiac arrest. Built-in computers assess the patient's heart rhythm, judge whether defibrillation is needed and then administer the shock. Audible prompts and lighted indicators guide the user through the process.



Sudden cardiac arrest is so dangerous because it is unpredictable and can happen to anyone – even a child – and many victims have never had any prior heart problems. Sudden cardiac arrest is due to an electrical malfunction in the body, causing the heart to stop beating properly. The heart then becomes an ineffective pump that no longer supplies the body and brain with oxygen.

Within seconds, the victim falls unconscious and has no pulse. Only immediate treatment, such as CPR and the use of an AED, can prevent death. Every minute without treatment decreases survival by 10 percent.

"Early intervention is the key to the chain of survival," said Dr. David Williams, Director of Space and Life Sciences. With AEDs and trained AED operators located throughout JSC property, help can be given in the critical initial two to four minutes when the chance of survival is much higher.

Who can use the AED?

Most AEDs are designed to be used by non-medical personnel who have received proper training.

"Virtually all of the employees who volunteered to be trained and certified as AED operators have not been a part of any first-response rescue team," said Bob Gaffney, JSC Emergency Preparedness Manager.

AEDs are relatively easy to use, but the operator must know how to recognize the signs of sudden cardiac arrest and when to call JSC's emergency phone numbers. Operators must also be certified in CPR, which stands for cardiopulmonary resuscitation. Early CPR is an integral part of providing lifesaving aid to people suffering sudden cardiac arrest. The ventilation and compressions help to circulate oxygen-rich blood to the brain between shocks.

In addition, it is important for operators to receive formal training on the AED model they will be using so that they become familiar with that particular device and can operate it successfully in an emergency. Certified AED operators must commit to maintaining their skills and certification by participating in monthly computer-based refresher training.

Tucker, who used an AED to help save a life at JSC fewer than two years ago, said that the benefits of the program make it well worth all the training and maintenance required.

"I think it's an excellent program," said Tucker. "There have been several instances where people have been brought back."

How can I volunteer as an AED operator?

Even with more than 500 certified AED operators, JSC still needs more people who are willing to be trained and certified in CPR and the use of AEDs. Interested employees should call the Occupational Health Office at x37896 or Mike Fox in the Human Test Support Group at x25724.

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Betty Gress, whose life was saved with an AED last year, is pictured with the people who played a role in her rescue. From left to right are: Jeffrey Davis, Director of Space and Life Sciences Directorate; Daniel Sedej, Communication and Tracking Group Lead, training division; Robert Smith, member of the JSC Security Bike Patrol; Gress, Station Flight Manager in the Mission Integration and Schedule Management Office; Michael Prendergast, Flight Manager for the Mission Operations Directorate; and Kimberly Kennedy, Flight Manager for the Mission Operations Directorate.